

ANALYSIS OF SCIENTIFIC AND STATISTICAL COMMITTEE (SSC) RECOMMENDATIONS
FOR
GORGONIAN HARVEST

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I have examined the minutes of the SSC meeting on April 20-22, 2010, in North Charleston, S.C. that discussed and set harvest limit recommendations for gorgonians, for submitting to the South Atlantic Fishery Management Council in June 2010. I felt that a response to the SSC recommendations was needed, and would like to make that response here.

I have been diving and collecting marine organisms in South Florida since 1956, and thus have a long-term knowledge of the trends in marine life in this area. Complementing this field experience is my PhD degree in marine biology from the University of Miami. I have also served continuously on the Coral Advisory Panel of this Council since about 1987, and have actively participated in all of their meetings over the past 23 years. In September of last year the coral Advisory Panel met in Charleston to discuss the harvest of gorgonians and develop recommendations for this Council. We were aware that the SSC would meet and discuss this fishery and we had expected that they would review the minutes of that meeting and the recommendations that were submitted to the full council for their consideration.

A review of those discussions and of the fishery itself shows that:

- The gorgonian fishery is a small, live harvest fishery based primarily off South Florida and the Florida Keys.
- To the marine life fishermen who harvest gorgonians it forms a vital part of their weekly catch, and it has become an important part of the marine aquarium hobby.
- The allowed harvest in Federal waters of 50,000 colonies annually is insignificant in relation to the gorgonian populations present.
- In contrast to food fisheries, the harvest is demand-driven. In other words, if I receive an order for 50 gorgonians, I will go out and harvest 50 gorgonians, and leave all the others.
- The fishery has been stable at levels far below the allowable catch, because the actual catch is what has been asked for by the aquarium hobby. These catch levels are **not** due to a lack of gorgonians of any species.
- There are huge refuge areas in the Keys where gorgonian harvesting is prohibited.
- Also, there are other very extensive areas that are either too deep or too far from shore to be feasibly harvested.

During the SSC discussions, false statements were made. The first is that only 10 species were collected. The Coral Advisory Panel asked me for a list of the **top** 10 gorgonian species that I collected. I collated this from my invoices for the previous year, which listed each species. There are 18 species on my price list, and I occasionally try out other species. Other fishermen in other parts of Florida probably catch a different range of species. I have been harvesting them since about 1960 and see no depletion. Humann's book states that there are 60-70 species in the Florida-Caribbean region.

Another statement was made that if Federal waters closed down, the species in State waters would get hammered. This would not be the case, because the demand for each of the species would not change appreciably. The only change would be that the few species harvested in Federal waters would be unavailable.

Myra Brower, Biologist for the Council, said she didn't know why the quota of 50,000 colonies in the Federal Exclusive Economic Zone, or EEZ, was established. I know, since I was at the joint South Atlantic and Gulf of Mexico Council meeting that established the quota. This was the first quota for gorgonians, so I thought about the needs of the fishery together with their abundance in the ocean, consulted with the president of Reef Relief, a major marine environmental organization, and we presented a joint harvest value of 50,000 colonies in the EEZ to the Councils. One Council member asked me if that was enough, and I replied that that was more than enough. The Councils, who were apparently familiar with South Florida waters, agreed that there was no problem with the environment, and approved this harvest quota.

I assembled a range of scientific data, observations, and pictures dealing with growth, mortality, relative unimportance as habitat or food to South Atlantic Council fisheries, and especially a series of colony counts per square meter, plus scientific estimates of areas of hard bottom in South Atlantic waters. I sent this data to the SSC, and it was added to the SSC briefing book as Appendix 7. This was difficult to do, since at first people told me that the SSC would not accept data from anyone but its official science data center.

Unfortunately, the minutes reveal that most SSC members apparently did not consider the data I sent because they did not discuss or even attempt to calculate a population estimate, something that would have been easy with the scientific peer-reviewed data that I supplied, even when the data was brought to their attention. I don't understand this, because the minutes also state that: "one big piece of information we're missing here is what is the total area that is being harvested from and then what is the fraction of that that is actual octocoral habitat and then based on some surveys what fraction of the landings – I mean, that in itself could almost suffice as a near complete assessment and that would bump it completely out of the data-poor category (page 139)."

The SSC seems to blame the fishermen for the relative lack of data, when it is really the Southeast Fisheries Science Center's fault. The Center had two years to get the data to the SSC, but it apparently did nothing. The Center failed to do its job, and thus caused the SSC to violate

National Standard 2, which **required** the SSC to use the best scientific data available. The Council wanted the recommendations by the June meeting because it wanted to include the decisions in Amendment 2 of the Ecosystem Plan. This rush to hasty recommendations is not necessary because this fishery is not being overfished, and is stable.

In addition, my impression in reading the minutes is that most of the SSC members were uninformed about the Coral Management Plan, since members kept referring to gorgonians as corals and believed that these gorgonians were the totality of the Coral Plan (page 12). The SSC still said that with more data, it could increase the harvest. The SSC needs to tell everyone what data it needs, in what form it has to be in, and where to send it.

Since gorgonians grow on all hard bottoms, and they do not move as do fish, these counts per square meter and area data in meters can easily be used to calculate accurate estimates of populations. These data in Attachment 7 were brought up in the SSC discussion by Dr. Cheuvront, but no discussion ensued. In fact, in several instances in the minutes, a statement was made that the only data that was available was the catch data. How did the members of the SSC miss reading the information in their own briefing book?

Population estimates of gorgonians in the Florida Keys, using the peer-reviewed data already given to the SSC, indicates that there are anywhere from 8 billion to 28.8 billion colonies growing in the Florida Keys alone. This does not even count the gorgonians in the Gulf of Mexico or along the Southeast Atlantic coast of Florida. With the mean harvest of gorgonians in the Keys at 33,755 colonies per year, this means that out of a mean population of 18.4 billion colonies the harvest is 1 colony per 545,104 colonies present. How can any reasonable person believe that overfishing is occurring in this fishery, and then set an Overfishing Limit, or OFL, based on catch rather than on population data?

There is an initial major flaw in the SSC decisions that invalidates all the recommendations that follow it. This flaw is the SSC's belief that the fishery is unknown, equivalent in its mind to "overfished", in spite of all the data and information it was given. Members proved this belief by deciding that the OFL for gorgonians should be the mean of the **catch** data, and by applying this same OFL definition to the **proven** overfishing status of groupers and snappers. Unfortunately, as mentioned in the minutes, few of the scientists knew anything about the fishery, and I doubt that many had direct experience under the water in the Keys. A statement was also made that there was no official control rule for gorgonians. Then the SSC decided to set an arbitrary percentage value for the Annual Biological Catch, or ABC, of 35% of OFL. The minutes state that "we're reducing the fishery by over 50 percent from where it is now, and the sole reason is scientific uncertainty, and I can't think of any other reason. The SSC talked about capping the harvest where it is now. In that case, they should have set the ABC at the maximum harvest level.

It is unfortunate that the SSC decided to test their preliminary models developed for overharvested fisheries on a non-overharvested fishery. Later on in the minutes the scientists realized that their control rules were inadequate even for overharvested species, and that a

different control rule needed to be developed. However, they did not reexamine their initial OFL determination.

The minutes also state that “We may have all the anecdotal information we think we have, but the bottom line is we do not have a scientifically reviewed OFL estimate. We have one that we created at this committee in a matter of 20 minutes of discussion (page 141).”

The Council could set the Annual Catch Limit, or ACL, below the ABC, which would be even more devastating to the fishery.

This overfishing assumption came about because the catch was always far below the authorized quota, and the scientists apparently assumed that the catch limit was not reached because fishermen could not catch them. This is totally wrong, because in this fishery, catch is limited by demand from the aquarium hobby. If there is no demand, there is no catch. This is the reason for the trends in total catch, not because the gorgonians are being fished out, but because the demand changes as the economy changes and the aquarium hobby evolves.

In order to make sure that an overfished fishery is no longer overfished, I can see as a marine biologist that the SSC would use the mean current landings as the OFL, and then reduce the catch to a proper ABC.

For the gorgonian fishery, which is not overfished, the OFL should be based on the estimated populations in the SA Council’s jurisdiction, and an OFL set at a reasonable percentage of that population, based on growth rates, longevity, reproduction and mortality.

Since there is no evidence, or even a hint, that the gorgonian fishery is being overfished, there is plenty of time for a proper analysis. The minutes state that “we’re asking industry to pay a pretty hefty penalty, and I don’t see signs that that industry is in trouble at this point.” Another quote states “It seems to be a stable fishery; things are perking along, but we don’t have the information in front of us so we’re penalizing the industry.” Both of the SSC recommendations for this fishery will lead to severe regulatory complications among the South Atlantic Council, the Gulf Council, the Florida Keys National Marine Sanctuary, and the Florida Fish and Wildlife Commission, and will cause severe economic impacts on the Marine Life Fishermen.

The SSC has recommended two injurious ABCs – one dealing with Federal waters and one dealing with combined Federal-State waters. The recommended catch values are far below what is currently being caught. This is despite the comment in the minutes that “my concern at this point is the credibility of our recommendation and us making sure that we are giving this decision the same weight that we give all the other ones which we are presented with an abundance of analysis. When we don’t have enough, we request additional analyses be conducted. I would rather make a decision that is well informed and I can actually stand by in the future than feel like we don’t have the appropriate amount of information and default to something that is premature (page 136).”

The problem with making premature rules is that the rules are permanent, but the reasons for making them (lack of information) are soon forgotten. Then, at the next round of rulemaking, people think that the rules were made because the fishery was overfished.

The SSC recommendations are that the maximum theoretical gorgonian harvest is set at 35 percent of the mean **current** harvest level. That means, in effect, that the fishery for gorgonians, if it follows its monthly harvest levels, would have a harvest season of about 4 months out of the year, at which time the ABC would be reached. The SSC minutes indicate that what the SSC recommends are just recommendations, and may not have to be accepted by the Council (page 11).

The problems with the SSC recommendations are that they violate many of the National Fisheries Service's National Standards. These and the reasons are:

National Standard 1

- Failed in the **requirement** to use the best scientific information available.
- Failed to use the objective scientific fishery-independent data that they had in their possession to set a valid Optimum Yield, or OY, and OFL.
- Acknowledged but failed to implement their general impression that the fishery was stable and not overfished.
- The OFL and ABC values were not peer-reviewed before submitting them to the Council.
- OFL was not calculated on the basis of population estimates and biology, but on current harvest.
- No basis for objective measurement of the status of the stock complex was discussed or provided.
- The management measures offered are too restrictive. The OY, OFL, and ABC should be reexamined.
- The measures damage an economically viable fishery.
- The measures damage the export market for gorgonians, by giving the remaining harvest to other countries.

National Standard 2

- Failed to acknowledge and use the best scientific knowledge available.
- Failed to identify and gather the needed data.
- Failed to apply economic and social factors toward sustained participation of fishing communities, and minimize adverse economic impacts as long as overfishing does not occur.

National Standard 6

- Failed to realize that the huge fishing reserves where gorgonian harvesting is prohibited cancel out a lot of the uncertainty in estimating harvest or stock conditions or calculating ABC.
- Failed to acknowledge that these recommendations would produce drastic changes in fishing patterns and allocations.

National Standard 7

- Failed to consider that not every fishery needs regulation.
- Failed to consider that management measures should not impose unnecessary burdens on the economy or on individuals.
- Failed to consider if the benefits of fishery regulation are worth the cost of the added research, administrative, and enforcement costs.

National Standard 8

- Failed to provide for the sustained participation of fishing communities and minimize adverse economic impacts, by failing to recommend an OFL and ABC based on population data.

I **do not** want to step on any toes, and I realize that the SSC was boxed in by time, but I cannot let these overhasty and scientifically-devoid decisions stand. Since I have 54 years of first-hand experience in Keys water as a scientist and as a fisherman, I **do want** to work with the SSC scientists one on one to develop a scientifically-based management plan. I am willing to find as much information about gorgonians as I can and bring it to a SEDAR, or Southeast Data, Assessment, and Review Group.

As president of the Florida Marine Life Association, the fishery group representing the Marine Life Fishery, which includes the gorgonian fishery, I formally petition the South Atlantic Council to convene a SEDAR for gorgonians, comprised of managers, scientists, fishermen, and others, in order to gather the scientific and anecdotal information needed to make a valid and impartial determination of Maximum Sustainable Yield, or MSY, of OFL, and of ABC, that is fair to the fishermen as well as to the environment. Since the fishery is not being overfished, there is no ecological reason for this current extreme rush. Convening a SEDAR would show the public that the government is willing to be fair and not rush into premature draconian decisions.

There is another alternative that the Council can take that will avoid all of this hassle, expense, effort, and controversy, and will also show the public that the government is willing to be fair. The Gulf of Mexico Council has expressed a desire to give away management authority for gorgonians. I feel that the reasons are that that Council considers the gorgonian fishery to be too small to waste their time on, is not overfished, and the great majority of gorgonians are harvested in State waters.

We would therefore recommend that the South Atlantic Council remove gorgonians from the Coral Management Plan and allow Florida to develop its own management criteria on the basis of populations, landings, and scientific analyses. After all, the great majority of gorgonians are collected in State waters. The State is already managing the Marine Life Fishery, which includes gorgonians, and is already collecting and analyzing the harvest data for gorgonians, both from State and Federal waters.

This alternative would go hand in glove with the Council's probable removal of the invasive orange cup coral from the Coral Plan. Removing this aggressive stony coral from the Coral Plan, and allowing it to be managed by Florida, would help to prevent it from overwhelming the reef and killing endangered Acropora corals. Combining these removals from the Coral Plan would

be the most cost-effective management strategy for the Council, and would not lead to an increase in gorgonian catches. It would greatly simplify management. It would allow the Council to concentrate its attention on really important overfishing issues. This decision would allow Ecosystem amendment 2 to go forward without controversy. This alternative would be a win-win situation for all participants.

This alternative is the one that the Florida Marine Life Association would prefer. Convening a SEDAR would be the second choice. We would strongly oppose the SSC recommendations.

Please do what is right.

Yours truly,

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Humann, Paul, 1993. Reef Coral Identification (includes stony corals, gorgonians, and marine algae). New World Publications, Jacksonville, FL